conduit, thermal and acoustical insulation and insulation covering, air ducting, joint and edge covering, cargo compartment liners, insulation blankets, cargo covers, and transparencies, molded and thermoformed parts, air ducting joints, and trim strips (decorative and chafing) that are constructed of materials not covered in paragraph (a)(3) of this section, must be self extinguishing when tested vertically in accordance with the applicable portion of appendix F of Part 25 of this chapter, or other approved equivalent methods. The average burn length may not exceed 8 inches and the average flame time after removal of the flame source may not exceed 15 seconds. Drippings from the test specimen may not continue to flame for more than an average of 5 seconds after falling.

(3) Acrylic windows and signs, parts constructed in whole or in part of elastometric materials, edge lighted instrument assemblies consisting of two or more instruments in a common housing, seat belts, shoulder harnesses, and cargo and baggage tiedown equipment, including containers, bins, pallets, etc., used in passenger or crew compartments, may not have an average burn rate greater than 2.5 inches per minute when tested horizontally in accordance with the applicable portions of appendix F of Part 25 of this chapter, or other approved equivalent methods.

(4) Except for electrical wire and cable insulation, and for small parts (such as knobs, handles, rollers, fasteners, clips, grommets, rub strips, pulleys, and small electrical parts) that the Administrator finds would not contribute significantly to the propagation of a fire, materials in items not specified in paragraphs (a)(1), (a)(2), or (a)(3) of this section may not have a burn rate greater than 4 inches per minute when tested horizontally in accordance with the applicable portions of appendix F of Part 25 of this chapter, or other approved equivalent methods.

(b) In addition to meeting the requirements of paragraph (a)(2), seat cushions, except those on flight crewmember seats, must meet the test requirements of Part II of appendix F of Part 25 of this chapter, or equivalent.

(c) If smoking is to be prohibited, there must be a placard so stating, and if smoking is to be allowed—

(1) There must be an adequate number of self-contained, removable ashtrays; and

(2) Where the crew compartment is separated from the passenger compartment, there must be at least one illuminated sign (using either letters or symbols) notifying all passengers when smoking is prohibited. Signs which notify when smoking is prohibited must—

(i) When illuminated, be legible to each passenger seated in the passenger cabin under all probable lighting conditions; and

(ii) Be so constructed that the crew can turn the illumination on and off.

(d) Each receptacle for towels, paper, or waste must be at least fire-resistant and must have means for containing possible fires;

(e) There must be a hand fire extinguisher for the flight crewmembers; and

(f) At least the following number of hand fire extinguishers must be conveniently located in passenger compartments:

Passenger capacity	Fire extinguishers
7 through 30	1
31 through 60	2
61 or more	3

(Secs. 313(a), 601, 603, 604, Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424), sec. 6(c), Dept. of Transportation Act (49 U.S.C. 1655(c)))

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§ 29.855 Cargo and baggage compartments.

(a) Each cargo and baggage compartment must be construced of or lined with materials in accordance with the following:

(1) For accessible and inaccessible compartments not occupied by passengers or crew, the material must be at least fire resistant.

(2) Materials must meet the requirements in § 29.853(a)(1), (a)(2), and (a)(3)

for cargo or baggage compartments in which—

(i) The presence of a compartment fire would be easily discovered by a crewmember while at the crewmember's station;

(ii) Each part of the compartment is easily accessible in flight;

(iii) The compartment has a volume of 200 cubic feet or less; and

(iv) Notwithstanding §29.1439(a), protective breathing equipment is not required.

(b) No compartment may contain any controls, wiring, lines, equipment, or accessories whose damage or failure would affect safe operation, unless those items are protected so that—

(1) They cannot be damaged by the movement of cargo in the compartment; and

(2) Their breakage or failure will not create a fire hazard.

(c) The design and sealing of inaccessible compartments must be adequate to contain compartment fires until a landing and safe evacuation can be made.

(d) Each cargo and baggage compartment that is not sealed so as to contain cargo compartment fires completely without endangering the safety of a rotorcraft or its occupants must be designed, or must have a device, to ensure detection of fires or smoke by a crewmember while at his station and to prevent the accumulation of harmful quantities of smoke, flame, extinguishing agents, and other noxious gases in any crew or passenger compartment. This must be shown in flight.

(e) For rotorcraft used for the carriage of cargo only, the cabin area may be considered a cargo compartment and, in addition to paragraphs (a) through (d) of this section, the following apply:

(1) There must be means to shut off the ventilating airflow to or within the compartment. Controls for this purpose must be accessible to the flight crew in the crew compartment.

(2) Required crew emergency exits must be accessible under all cargo loading conditions.

(3) Sources of heat within each compartment must be shielded and insulated to prevent igniting the cargo.

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964, as amended by Amdt. 29–3, 33 FR 969, Jan 26, 1968; Amdt. 29–24, 49 FR 44438, Nov. 6, 1984; Amdt. 27–26, 55 FR 8004, Mar. 6, 1990]

§ 29.859 Combustion heater fire protection.

(a) *Combustion heater fire zones.* The following combustion heater fire zones must be protected against fire under the applicable provisions of §§29.1181 through 29.1191, and 29.1195 through 29.1203:

(1) The region surrounding any heater, if that region contains any flammable fluid system components (including the heater fuel system), that could—

(i) Be damaged by heater malfunctioning; or

(ii) Allow flammable fluids or vapors to reach the heater in case of leakage.

(2) Each part of any ventilating air passage that—

(i) Surrounds the combustion chamber; and

(ii) Would not contain (without damage to other rotorcraft components) any fire that may occur within the passage.

(b) *Ventilating air ducts.* Each ventilating air duct passing through any fire zone must be fireproof. In addition—

(1) Unless isolation is provided by fireproof valves or by equally effective means, the ventilating air duct downstream of each heater must be fireproof for a distance great enough to ensure that any fire originating in the heater can be contained in the duct; and

(2) Each part of any ventilating duct passing through any region having a flammable fluid system must be so constructed or isolated from that system that the malfunctioning of any component of that system cannot introduce flammable fluids or vapors into the ventilating airstream.

(c) *Combustion air ducts.* Each combustion air duct must be fireproof for a distance great enough to prevent damage from backfiring or reverse flame propagation. In addition—